



1201.68381

## PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Graciela W. Padua  
 Serial No.: 10/667,986  
 Conf. No.: 1967  
 Filed: 9/22/2003  
 For: METHOD OF MANUFACTURING  
 IMPROVED CORN ZEIN RESIN  
 FILMS, SHEETS, AND ARTICLES  
 Art Unit: 1732  
 Examiner: Unassigned

*I hereby certify that this paper is being deposited with the United States Postal Service as FIRST-CLASS mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this date.*

Mar. 4, 2004

A. B. R.

Date

Registration No. 43,874

F-CLASS.WCM

Appr. February 20, 1998

Attorney for Applicant(s)

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

Dear Sir:

This IDS is submitted under 37 C.F.R. § 1.97(b) within either of the following time periods, whichever occurs last:

- (a) within three months of either the filing date of the national application or the date of entry into the national stage; or
- (b) before the mailing date of first office action on the merits (i.e., not including actions such as restriction requirements).

Applicant(s) submit herewith Form PTO-1449 (Information Disclosure Citation) together with copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 C.F.R. § 1.56. Applicant(s) respectfully submit that the citation of any reference on Form PTO-1449 does not constitute an admission that the reference qualifies as prior art.

It is requested that the information disclosed on the enclosed Form PTO-1449 be made of record in this application.

The Commissioner is hereby authorized to charge any additional fees which may be required to this application under 37 C.F.R. §§ 1.16-1.17, or to credit any overpayment, to Deposit Account No. 07-2069. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

GREER, BURNS &amp; CRAIN, LTD.

300 South Wacker Drive – Suite 2500  
 Chicago, Illinois 60606  
 Telephone: (312) 360-0080  
 Facsimile: (312) 360-9315  
 Customer Number 24978

By:

A. B. R.

Arik B. Ranson

Registration No. 43,874

Form PTO-1449 U.S. Department of Commerce (Rev. 8-88) Patent and Trademark Office	Attorney Docket No.: 1201.68381	Serial No.: 10/667,986
<b>INFORMATION DISCLOSURE CITATION</b> (Use several sheets if necessary)	Applicant: Graciela Wild Padua	
	Filing Date: 9/22/2003	Group: 1732

MAR 08 2004

## U.S. PATENT DOCUMENTS

Examiner Patent & Trademark	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	4,543,370	9/1995	Porter et al.			
	5,182,130	1/1993	Haralampu et al.			
	5,188,842	2/1993	Visser et al.			
	5,393,333	2/1995	Trouve			
	5,523,293	6/1996	Jane et al.			
	5,543,164	8/1996	Krochta et al.			
	5,585,060	12/1996	Takahashi et al.			
	5,922,379	7/1999	Wang			
	6,379,725	4/2002	Wang et al.			

## FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
	2214920	9/1989	Great Britain				
	06 192577 A	7/1994	Japan			abs	
	WO 01/83597	11/2001	WIPO				

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Andres (ed.), Edible films have potential for significantly improving aesthetic and nutritional content of foods, Food Processing, pp. 102-130 (1985).
	Andres (ed.), Natural edible coating has excellent moisture and grease barrier properties, Food Processing, pp. 48-49 (Dec. 1984).
	Anker, Edible and biodegradable films and coatings for food packaging--a literature review, Part of a Ph.D. work at the Department of Food Science, Chalmers University of Technology, Sweden (1996).
	Damodaran (ed.), Food proteins and their applications, pp. 529-549 (1997).
	Gennadios et al., Edible films and coatings from wheat and corn proteins, Food Technology, pp. 63-69 (1990).
	Gennadios et al., Property modification of edible wheat, gluten-based films, American Society of Agricultural Engineers, vol. 36(2), pp. 465-470 (1993).
	Ha et al., Extrusion processing of zein-based biodegradable plastics, Abstracts from the Sixteenth Annual Midwest Food Processing Conference, IFT Regional Conference, LaCrosse, WI (1997).
	Ha et al., Extrusion processing of zein-based biodegradable plastics, Book of Abstracts (59E-15), Institute of Food Technologists Annual Meeting, Atlanta, GA (1998).
	Izzo et al., Protein-lipid interaction during single-screw extrusion of zein and corn oil, Cereal Chemistry, vol. 66(1), pp. 47-50 (1989).

Examiner	Date Considered
----------	-----------------

\*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449 U.S. Department of Commerce (Rev. 8-88) Patent and Trademark Office		Attorney Docket No.: 1201.68381	Serial No.: 10/667,986
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)		Applicant: Graciela Wild Padua	
		Filing Date: 9/22/2003	Group: 1732
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
PATENT & TRADEMARK	Kanig et al., Evaluative Procedures for Film-Forming Materials Used in Pharmaceutical Applications, J. Pharm. Sci., 51(1), p. 77-83 (1962).		
	Krochta et al., Edible and biodegradable polymer films: challenges and opportunities, Food Technology, vol. 51, No. 2, pp. 61-74 (1997).		
	Lai et al., Development of corn zein-based biodegradable resins, Book of Abstracts (53C-8), Institute of Food Technologists Annual Meeting, New Orleans, LA (1996).		
	Lai et al., Effect of processing method of water barrier properties of zein-based films, Book of Abstracts (77-4), Institute of Food Technologists Annual Meeting, Orlando, FL (1997).		
	Lai et al., Properties and microstructure of plasticized zein films, Cereal Chemistry, vol. 74(6), pp. 771-775 (1997).		
	Lai et al., Properties and microstructure of zein sheets plasticized with palmitic and stearic acids, Cereal Chemistry, vol. 74, No. 1, pp. 83-90 (1997).		
	Lai et al., Structure characterization of biodegradable zein resin films by x-ray diffraction, Book of Abstracts (77B-45), Institute of Food Technologists Annual Meeting, Atlanta, GA (1998).		
	Lai et al., Water vapor barrier properties of zein films plasticized with oleic acid, Cereal Chemistry 75(2), pp. 194-199 (1998).		
	Lai et al., X-ray diffraction characterization of the structure of zein-oleic acid films, Journal of Applied Polymer Science, vol. 71, pp. 1267-1281 (1999).		
	Lai, Preparation of zein-based biodegradable materials and the investigation of their physical properties, Ph.D. Thesis, University of Illinois (1997).		
	Masco-Arriola et al., Plasticization of corn zein with unsaturated fatty acids, Paper submitted to Dept. of Food Science and Human Nutrition, University of Illinois (1997).		
	Masco-Arriola, Preparation and evaluation of biodegradable plastics derived from corn zein, M.S. Thesis, University of Illinois (1996).		
	Padua et al., Biodegradable plastics, Biobased products Expo '04, (1994).		
	Padua et al., Properties of biodegradable plastics derived from corn proteins, Proceedings from the Third Biomass Conference of the Americas, Montreal, Canada, Aug. 24-29, 1997.		
	Padua, Biodegradable resins from corn by-products, Presentation to AOSCA 6th Annual Identity Preserved Crops Conference (1995).		
	Park et al., Fatty acid concentration effect on tensile strength, elongation, and water vapor permeability of laminated edible films, Journal of Food Science, vol. 59(4), pp. 916-919 (1994).		
	Park et al., Properties of edible coatings for fruits and vegetables, Paper presented to the American Society of Agricultural Engineers (1990).		
	Reiners et al., Corn proteins: potential for their industrial use, "Industrial Uses of Cereal," Am. Assoc. of Cereal Chemists, St. Louis, MO, pp. 285-298 (undated).		
	Santosa et al., Effect of fatty acid content on tensile properties of zein-based biodegradable resin sheets, Book of Abstracts (69A-10), Institute of Food Technologists Annual Meeting, Orlando, FL (1997).		
Examiner		Date Considered	
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			

Form PTO-1449 U.S. Department of Commerce  
(Rev. 8-88) Patent and Trademark Office

Attorney Docket No.:  
1201.68381

Serial No.:  
10/667,986

INFORMATION DISCLOSURE CITATION  
(Use several sheets if necessary)

Applicant:  
Graciela Wild Padua

Filing Date:  
9/22/2003

Group:  
1732

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Santosa et al., Tensile and water absorption properties of zein-fatty acid biodegradable resins, Abstracts from the Sixteenth Annual Midwest Food Processing Conference, IFT Regional Conference, LaCrosse, WI (1997).

Santosa et al., Tensile Properties and Water Absorption of Zein Sheets Plasticized with Oleic and Linoleic Acids, Journal of Agriculture and Food Chemistry, v. 47, pp. 2070-2074, Apr. 30, 1999.

Santosa, Thermal behavior of zein sheets plasticized with oleic and linoleic acids, Book of Abstracts (59E-16), Institute of Food Technologists Annual Meeting, Atlanta, GA (1998).

Spence et al., Dialdehyde starch and zein plastic: mechanical properties and biodegradability, Journal of Environmental Polymer Degradation, vol. 3(2), pp. 69-74 (1995).

Examiner

Date Considered

\*Examiner:

Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.